



Sustainable Housing Standards

Tuesday, May 22, 2012



Single Family & Multifamily Sustainable Housing

Tuesday, May 22, 2012 10:30 AM – 11:45 AM CDT

-Welcome-

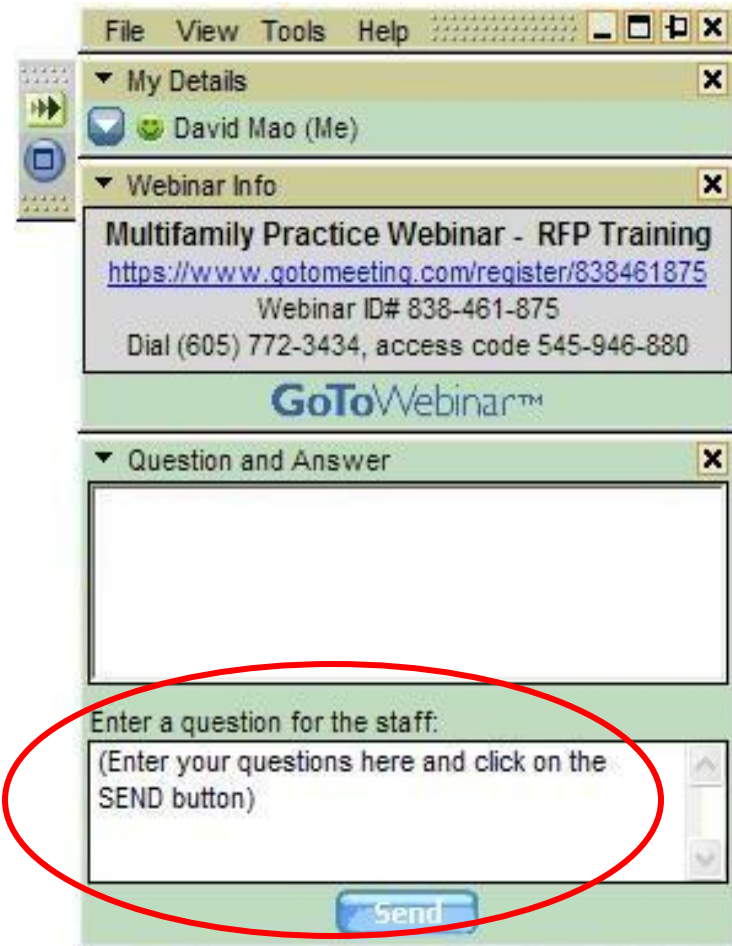
The presentation will begin at 10:35 PM CDT to allow for registrants to log into the system. When you join the presentation, you will hear background music. Please stay on the line.

To join the conference call:

Dial: 1-888-824-5783 - Access Code: 18785301, then hit #

- **If you are having difficulty joining, please e-mail:
dana.stibbins@state.mn.us**

Questions During Presentation



The screenshot shows a GoToWebinar interface. The sidebar on the left contains three sections: 'My Details' (showing 'David Mao (Me)'), 'Webinar Info' (showing 'Multifamily Practice Webinar - RFP Training', a registration link, 'Webinar ID# 838-461-875', and 'Dial (605) 772-3434, access code 545-946-880'), and 'Question and Answer'. The 'Question and Answer' section is circled in red and contains a text input area with the prompt 'Enter a question for the staff: (Enter your questions here and click on the SEND button)' and a 'Send' button.

- We will batch online questions and answer them throughout the webinar
- A complete Q & A list will be posted to the Minnesota Housing website when training is completed
- All presentation materials from Minnesota Housing are posted on our website at www.mnhousing.gov Lending Partners, Program Guidelines and Forms, Rehabilitation Loan Program Forms page

Today's Speaker

- **Minnesota Housing**

- » **Michael J. Thomas, AIA, LEED-AP BD+C
Architect – Technical Support
651-297-5135
mike.thomas@state.mn.us**

- **Assisting with Q&A**

- » **Jerry Narlock, Minnesota Housing Architect,
Multifamily**
- » **Devon Pohlman, Minnesota Housing, Single
Family**

Training Agenda

- **Overview**
 - » **Minnesota Housing Sustainability Policy**
- **2011 Enterprise Green Communities**
- **Minnesota Overlay and Guide**
- **Criteria & Overlay in Detail**
- **Workbook Demonstration**
- **Technical Support & Resources**



Changes from Previous Versions

- Noteworthy changes from previous versions are indicated with the a green checkmark

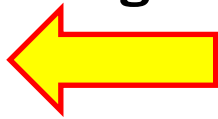


- **Multifamily = MF**
- **Single Family = SF**

Minnesota Housing Sustainability Policy: Where to find it!

- **Multifamily**

- » Chapter 8 of Minnesota Housing's Rental Housing Design/Construction Standards (RHD/CS)
- » New Construction (NC) and Rehabilitation (Rehab)
 - 2011 Enterprise Green Communities Criteria (EGCC)
 - MN Overlay and Guide to the 2011 EGCC
- » Also applicable to Housing Tax Credit (HTC) only funded (allocated) projects.



RHD/CS (2012 version) available online at:

http://www.mnhousing.gov/idc/groups/public/documents/webcontent/mhfa_010795.pdf

Minnesota Housing Sustainability Policy: Where to find it!

- **Multifamily** Exception:

- » State of Minnesota Sustainable Building Guidelines are applicable for developments receiving Publicly Owned Housing Program (POHP) funds. The 2011 EGCC & MN Overlay do not apply for POHP funded projects. A.K.A General Obligation Bonds

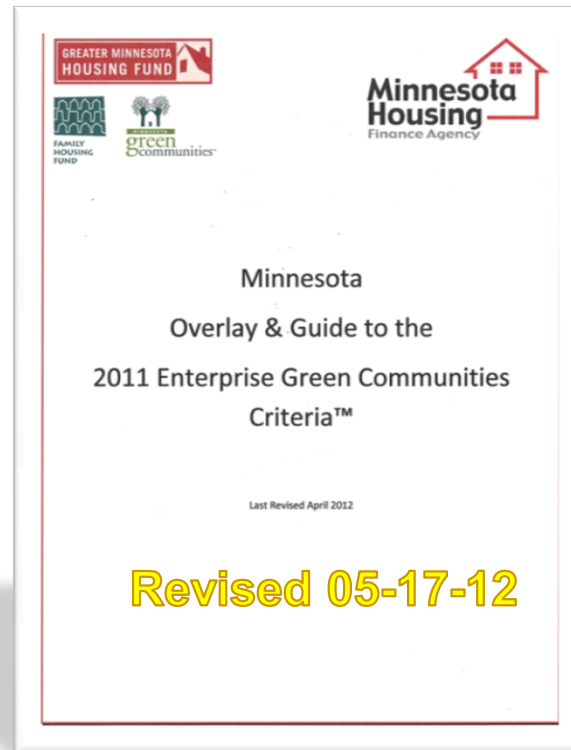
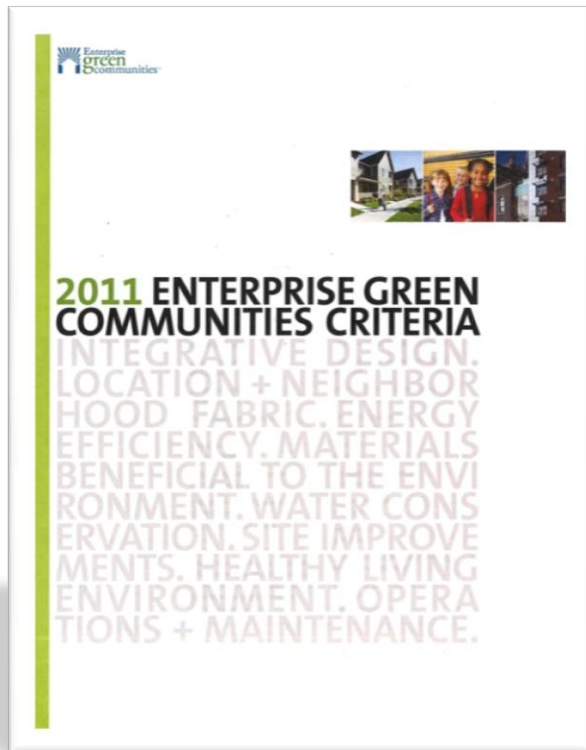
- **Single Family**

- » For Single Family, Sustainable Housing requirements are found in the applicable funding program guide.
- » Go to: <http://www.mnhousing.gov/resources/apply/index.htm>

Recommended Materials

Please download the following documents for reference during the training session.

- <http://www.enterprisecommunity.com/solutions-and-innovation/enterprise-green-communities/criteria>
- http://www.mnhousing.gov/housing/architects/MHFA_007963.aspx



Green Initiative Partners

- **Minnesota Housing**
- **MN Green Communities initiative made up of:**
 - » **Greater Minnesota Housing Fund**
 - » **Family Housing Fund**
 - » **Enterprise**
- **Overlay modifies applicable EGCC “Criteria” to better adapt them to conditions in our region and our design standards**

www.mngreencommunities.org



2011 Enterprise Green Communities

- **Current Version**
- **Definitions**
 - » **MN Housing Funding Source**
- **Criteria & Overlay in Detail**
- **Criteria Point System**
- **Technical Assistance**
 - » **Minnesota Green Communities**



2011

Enterprise Green Communities Criteria

... is made up of:

- Introduction
- Criteria Checklist
- 8 Criteria Categories



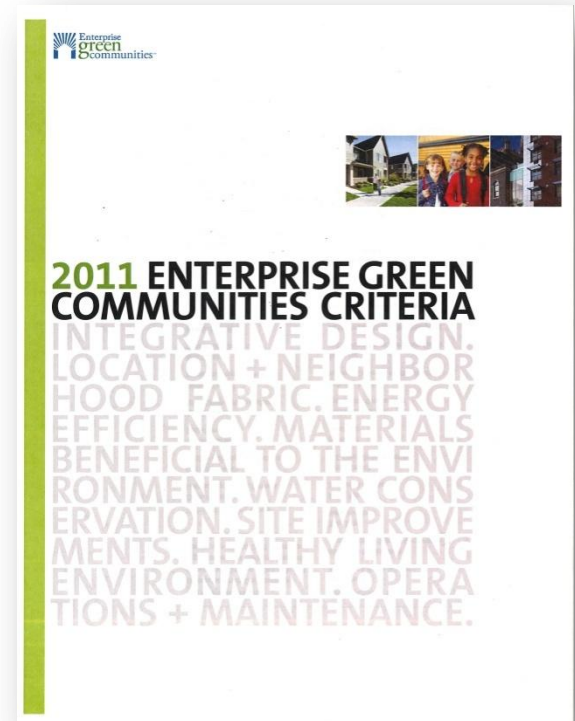
- Appendix A:
 - Enterprise Green Communities Certification and Verification Process




- Appendix B:
 - Air Sealing Key Points



- Glossary of Terms



Current Version - 2011

-  **Initial Application after April, 2012**
 - » **2011 Enterprise Green Communities Criteria (EGCC) and applicable MN Overlay & Guide**
- **Consult Minnesota Housing if your initial application was approved before April, 2012**

Definitions for Minnesota Housing Funding Source

- **Multifamily (MF)**

- » Occupants are renters and do not own the property
- » Administered through Minnesota Housing's Multifamily Division


- **Single Family (SF)**

- » Occupant(s) own the property
- » Administered through Minnesota Housing's Single Family Division

Criteria & Overlay in Detail

- **8 Criteria Categories**
 - **1 Integrated Design**
 - **2 Location + Neighborhood Fabric**
 - ✓ • **3 Site Improvements**
 - ✓ • **4 Water Conservation**
 - ✓ • **5 Energy Efficiency**
 - **6 Materials Beneficial to the Environment**
 - ✓ • **7 Healthy Living Environment**
 - **8 Operations + Maintenance**

Criteria Point System

- Green Communities is made up of **“Mandatory”** Criteria and **“Optional”** Criteria.
 - » All applicable **“Mandatory”** are required for Certification and for Minnesota Housing:
 - New Construction (NC) & Substantial (Sub) Rehab
 - »  **“Optional”** points are required for Certification and for Minnesota Housing based upon funding type and construction type.

Technical Assistance

- **2011 Enterprise Green Communities Criteria**
- **Janne Flisrand**
 - » janne@mngreencommunities.org
 - » **(612) 816-2115**



MN Overlay & Guide

- **Certification**
- **How to Use the Guide**
- **Building Type**
- **Rehabilitation Definitions**
- **Mandatory & Optional Criteria**
- **Instructions for Submittals**
- **Submittals**
- **Waivers**




MN Overlay & Guide to the 2011 Enterprise Green Communities Criteria

... is made up of:

- **Certification**
- **How to use this Document (Overlay)**
 - **Mandatory Criteria**
 - **Optional (points) Criteria**
- **RFP (or Pipeline) Submittals**
- **Instructions**
- **Other Information / Appendices**



Minnesota Overlay & Guide

- **Certification by Enterprise Green Communities**
 - » Encouraged, but not required! 
- **Enterprise Online account not required unless seeking certification!**
- **How to use this Document (the Overlay)**
 - » **Construction Type requirements 2011 EGCC use**
 - New Construction (NC)
 - Substantial Rehab
 - Moderate Rehab

Minnesota Overlay & Guide

- **How to use this Document (the Overlay)**
 - » **Building Type requirements 2011 EGCC use**
 - **3 Stories or Less**
 - ▶ Single Family Or Multifamily
 - ▶ Single Family Homes
 - ▶ Multifamily Townhomes
 - **4 Stories or More**
 - ▶ Multifamily
 - » **When applying Overlay and Guide to your project, consider which Minnesota Housing Division is the funding source:**
 - **MF** or **SF**

Minnesota Overlay & Guide


- **“Substantial” & “Moderate” Rehab Definitions**
 - » **2011 EGCC page 6**
 - » **“A Substantial Rehab (aka Gut Rehab) is defined as a project that includes the replacement and/or improvement of all major systems of the building, including envelope....”**
 - » **“A Moderate Rehab is defined as a project that does not include major systems or building envelope work as defined for Substantial Rehab. “**

Minnesota Overlay & Guide


- **Mandatory & Optional Criteria Table**

- » **Page 4 of the MN Overlay**
- » **MF = Multifamily Funding Source**
- » **SF = Single Family Funding Source**

Mandatory and Optional Criteria Table



Construction Type	Required Mandatory Criteria	Required Optional (points) Criteria	Certification
MF New Construction	Yes	Yes, at least (35)	Encouraged, but not required.
MF Substantial Rehab	Yes ⁴	Yes, at least (15) ⁶	Encouraged, but not required.
MF Moderate Rehab	Yes ^{1,3,4}	No, ⁶	Encouraged, but not required.
SF New Construction	Yes	No ⁷	Encouraged, but not required.
SF Rehab(All acquisition/ rehab)	Yes ^{2, 3, 4, 5}	No ⁶	Encouraged, but not required.



Minnesota Overlay & Guide

- **Mandatory & Optional Criteria Table - Footnote**
 - » **1. MF Moderate Rehab** Additional **“Mandatory”** criteria required:
 - ✓ 1.1b Green Development Plan: Criteria Documentation
 - ✓ 4.1 Water-Conserving Fixtures
 - ✓ 5.1c & d Building Performance Standards
 - ✓ 5.5a-c Efficient Lighting
 - ✓ 7.11 Radon Mitigation
 - » **Added since last year!**

MF Moderate Rehab	Yes ^{1,3,4}	No, ⁶
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Minnesota Overlay & Guide

- **Mandatory & Optional Criteria Table - Footnote**



2. SF Moderate Rehab (under the CRV program) only the following **“Mandatory”** required:



- **1.1b Green Development Plan: Criteria Documentation**



- **4.1 Water-Conserving Fixtures**



- **5.1c Building Performance Standards**



- **5.5a & c Efficient Lighting**



- **7.11 Radon Mitigation**

- **Added since last year!**

SF Rehab(All acquisition/ rehab)	Yes ^{2, 3, 4, 5}	No ⁶
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Minnesota Overlay & Guide

- **Mandatory & Optional Criteria Table - Footnote**
 - » 3. **MF** & **SF** moderate rehab improvements are required to comply with the corresponding **“Mandatory”** criteria, except when the criteria specifically denotes **“New Construction only”**.

MF Moderate Rehab	Yes ^{1,3,4}	No, ⁶
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SF Rehab(All acquisition/ rehab)	Yes ^{2, 3, 4, 5}	No ⁶
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Minnesota Overlay & Guide

- **Mandatory & Optional Criteria Table - Footnote**



4. MF & SF all rehab - Existing equipment, plumbing fixtures, and/or appliances that remain (not improved) are exempt from this requirement, if they have an Effective Useful Life (EUL) of at least 7 years. Existing items that remain shall be included as part of A Water Efficiency Improvement Plan and Energy Efficiency Improvement Plan. See applicable criteria overlay.

MF Substantial Rehab	Yes ⁴	Yes, at least (15) ⁶
MF Moderate Rehab	Yes ^{1,3,4}	No, ⁶
SF Rehab(All acquisition/ rehab)	Yes ^{2,3,4,5}	No ⁶

Minnesota Overlay & Guide

- **Mandatory & Optional Criteria Table - Footnote**
 - » **5.** For **SF Rehab** under the NSP and RLP programs, refer to the applicable program procedural manual for rehab requirements.

SF Rehab(All acquisition/ rehab)	Yes ^{2, 3, 4, 5}	No ⁶

Minnesota Overlay & Guide

- **Mandatory & Optional Criteria Table - Footnote**



»

6. MF & SF all rehab - Although not required (30) “Optional” points are strongly encouraged.

MF Substantial Rehab	Yes ⁴	Yes, at least (15) ⁶
MF Moderate Rehab	Yes ^{1,3,4}	No, ⁶

SF Rehab(All acquisition/ rehab)	Yes ^{2, 3, 4, 5}	No ⁶
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Minnesota Overlay & Guide

- **Mandatory & Optional Criteria Table - Footnote**



7. **SF New Construction** - Although not required (35) “Optional” points are strongly encouraged.

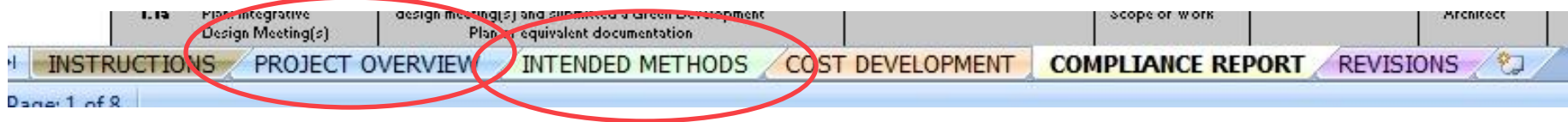


▪ **Technical Assistance Meeting with Owner, Builder (if selected), Minnesota Housing Staff Architect, and Minnesota Green Communities staff**

SF New Construction	Yes	No ⁷
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Instructions for Submittals

- **Download an Enterprise Green Communities “Certification Workbook”**
 - » Available online at: www.EnterpriseCommunity.org/green
 - » **Microsoft Excel (.xls) Document with tabs :**



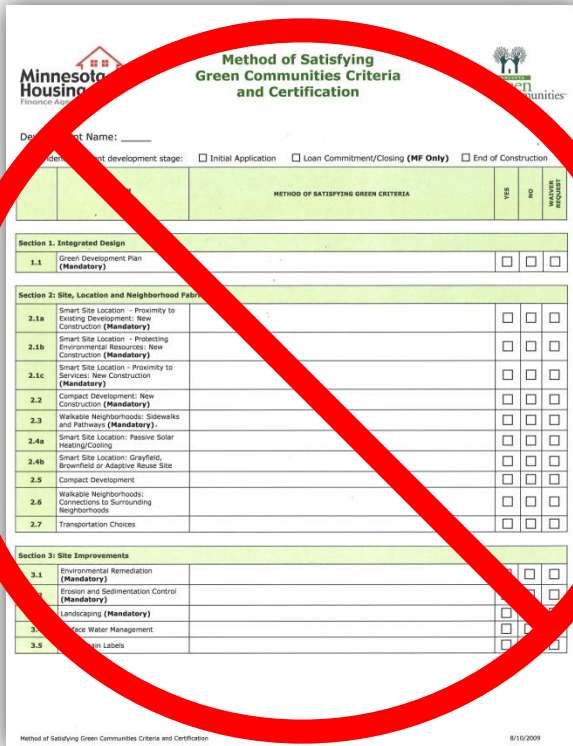
- ***Time permitting – there will be a demonstration towards the end of this training session!***

Instructions for Submittals

Intended Methods Form

2011 EGCC Checklist

DO NOT USE THESE DOCUMENTS FOR Minnesota Housing SUBMISSION



Minnesota Housing Finance Agency

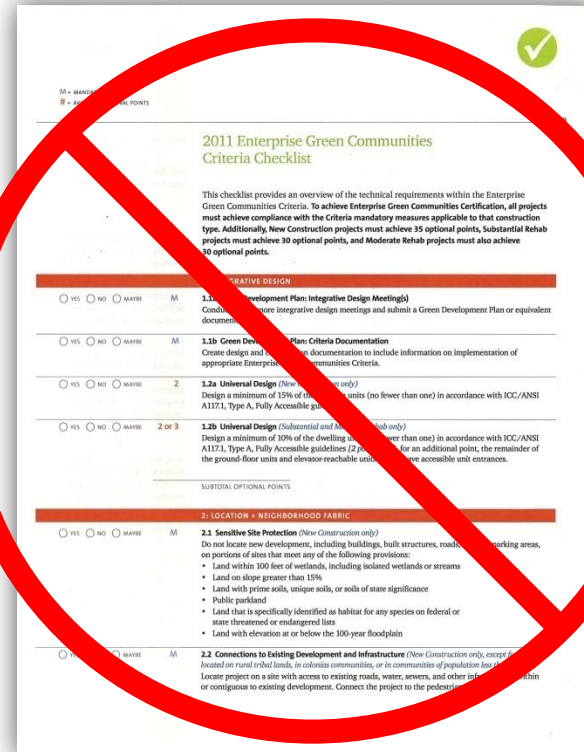
Method of Satisfying Green Communities Criteria and Certification

Developer Name: _____

Indicate development stage: ☐ Initial Application ☐ Loan Commitment/Closing (MF Only) ☐ End of Construction

METHOD OF SATISFYING GREEN CRITERIA		YES	NO	NEEDS REVISION
Section 1: Integrated Design				
1.1	Green Development Plan (Mandatory)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Section 2: Site, Location and Neighborhood Fabric				
2.1a	Smart Site Location - Proximity to Existing Development: New Construction (Mandatory)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.1b	Smart Site Location - Protecting Environmental Resources: New Construction (Mandatory)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.1c	Smart Site Location - Proximity to Services: New Construction (Mandatory)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.2	Compact Development: New Construction (Mandatory)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.3	Walkable Neighborhoods: Sidewalks and Pathways (Mandatory)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.4a	Smart Site Location: Passive Solar Heating/Cooling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.4b	Smart Site Location: Grayfield, Brownfield or Adaptive Reuse Site	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.5	Compact Development	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.6	Walkable Neighborhoods: Connections to Surrounding Neighborhoods	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.7	Transportation Choices	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Section 3: Site Improvements				
3.1	Environmental Remediation (Mandatory)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.2	Erosion and Sedimentation Control (Mandatory)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.3	Landscaping (Mandatory)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.4	Storm Water Management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.5	Energy Labels	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Method of Satisfying Green Communities Criteria and Certification 8/10/2009



2011 Enterprise Green Communities Criteria Checklist

This checklist provides an overview of the technical requirements within the Enterprise Green Communities Criteria. To achieve Enterprise Green Communities Certification, all projects must achieve compliance with the Criteria mandatory measures applicable to that construction type. Additionally, New Construction projects must achieve 35 optional points, Substantial Rehab projects must achieve 30 optional points, and Moderate Rehab projects must also achieve 30 optional points.

1: CREATIVE DESIGN

1.1 **Green Development Plan: Integrative Design Meeting(s)**
Conduct at least three integrative design meetings and submit a Green Development Plan or equivalent document.
☐ YES ☐ NO ☐ WAIVE M

1.2 **Green Development Plan: Criteria Documentation**
Create design and construction documentation to include information on implementation of appropriate Enterprise Green Communities Criteria.
☐ YES ☐ NO ☐ WAIVE M

1.3a **Universal Design (New Construction only)**
Design a minimum of 15% of the dwelling units (no fewer than one) in accordance with ICC/ANSI A117.1, Type A, Fully Accessible guidelines.
☐ YES ☐ NO ☐ WAIVE 2

1.3b **Universal Design (Substantial and Moderate Rehab only)**
Design a minimum of 30% of the dwelling units (no fewer than one) in accordance with ICC/ANSI A117.1, Type A, Fully Accessible guidelines (2 points for an additional point, the remainder of the ground-floor units and elevator-reachable units must have accessible unit entrances).
☐ YES ☐ NO ☐ WAIVE 2 or 3

SUBSTANTIAL OPTIONAL POINTS

2: LOCATION + NEIGHBORHOOD FABRIC

2.1 **Sensitive Site Protection (New Construction only)**
Do not locate new development, including buildings, built structures, roads, parking areas, on portions of sites that meet any of the following provisions:

- Land within 100 feet of wetlands, including isolated wetlands or streams
- Land on slope greater than 15%
- Land with prime soils, unique soils, or soils of state significance
- Public parkland
- Land that is specifically identified as habitat for any species on federal or state threatened or endangered lists
- Land with elevation at or below the 100-year floodplain

☐ YES ☐ NO ☐ WAIVE M

2.2 **Connections to Existing Development and Infrastructure (New Construction only, except for projects located on rural tribal lands, in colonia communities, or in communities of population less than 100 people)**
Locate project on a site with access to existing roads, water, sewers, and other infrastructure within or contiguous to existing development. Connect the project to the pedestrian network.
☐ YES ☐ NO ☐ WAIVE M

Submittals

- **Intended Methods of Meeting the Criteria (IMMC)**

- » **Green Development Agreement**
- » **Appendix A – Sample**
- » **Previously, Minnesota Housing had it's “Intended Methods Form”.**

2014 Enterprise Green Communities Criteria - MN Overlay Guide - Appendix A Sample IMMC

Project Name: Sample MHFA Project
 Project Address: 400 Sibley Street, Suite 300, St. Paul
 Project Status: Application Phase
 Organization Name: MN Housing
 Organization Contact: Michael J. Thomas, AIA, LEED-AP BD+C
 Date: 2/10/2012

INTENDED METHODS WORKSHEET: This worksheet identifies how the project team intends to incorporate all the Mandatory and adequate number of Optional Criteria into the development. This worksheet must be filled out and submitted before the construction start date. For additional information on how to submit go to www.greencommunitiesonline.org/tools/certification/

1) Select an answer provided in the drop-down menu under Column D ("How Criterion will be implemented") for each criterion.
 2) Explain special circumstances or request a waiver using Column E ("If necessary, describe deviations from intended approach"). This may include information on an approach proposed by the project team that does not appear as an option in the drop-down menu.
 3) Indicate where the Criterion references can be found within the project documents in Column F and G ("Criteria Documentation"). This is required for Criterion 1.1b.
 4) Indicate the project team member who is responsible for documenting and ensuring the completion of the Criterion under Column H ("Champion").
 5) Indicate the number of optional points being pursued by completing Column I ("Intended Points").

**Gray text within the spreadsheet (under "Green Development Agreement" section at bottom) indicates the type of information that could occupy that cell. It is not intended to be left in your final submission documents.

Complete this document by signing the Green Development Agreement at the bottom of this worksheet. Without the mandatory signatures, this document remains incomplete and the project will not receive Step 1 Certification.

1: INTEGRATIVE DESIGN

Criteria Item	How Criterion will be implemented	If necessary, provide additional information or explanation of alternative approach to meeting this measure	Criteria Documentation		Champion	Intended Points
			Location of Measure in Project Documents	Spec page number / plan type for locating measure		
1.1a Green Development Plan: Integrative Design Meeting(s)	The project team has conducted one or more integrative design meeting(s) and submitted a Green Development Plan or equivalent documentation.	MN Housing requires additional information here to explain how criteria will be met!!!!!!!!!!!!!!!!!!!!	Scope of Work		Architect	M
1.1b Green Development Plan: Criteria Documentation	The project team will create design and construction documentation (i.e. plans, details, and specifications) to include information on implementation of appropriate Enterprise Green Communities Criteria	This may be submitted at the "Loan Commitment/ Closing" phase. Not needed for Initial Application.	Project Plans and Specifications	Index	Architect	M
1.2a Universal Design (New Construction only)	The project team designed a minimum of 15% of the dwelling units in accordance with ICC/ANSI A117.1, Type A, Fully Accessible guidelines, and the remaining ground floor units and elevator-reachable units with ICC/ANSI A117.1, Type B	60 units x 15% = 9 units required to comply. 10 units provided.	Project Plans	Sheet A1.6	Architect	2
1.2b Universal Design (Substantial & Moderate Rehab only)						0
						2 Intended Points

2: LOCATION + NEIGHBORHOOD FABRIC

Criteria Documentation

INTENDED METHODS WORKSHEET: This w

This worksheet must be filled out and submitted

Submittals

- Green Communities Compliance Report Worksheet
- Appendix B - Sample

Project Name _____ Sample MHA Project _____ Organization Name _____ <blank> _____
 Project Address _____ 400 Sibley Street, Suite 300, St. Paul _____ Organization Contact _____ <blank> _____
 Project Status _____ Application Phase _____ Date _____ <blank> _____

COMPLIANCE REPORT WORKSHEET: This worksheet identifies how the project team intends to incorporate all the Mandatory and adequate number of Optional Criteria into the development.
 This worksheet must be filled out and submitted before construction start date. For additional information on how to submit go to www.greencommunitiesonline.org/tools/certification/

INSTRUCTIONS:
 1) Column D ("How Criterion will be implemented") for each criterion will be populated based on the "Intended Methods" worksheet.
 2) In Column E, explain if the project deviated from the optional points laid out in the "Intended Methods" worksheet, encountered any special circumstances or requested a waiver of the criterion
 3) Column F, G, H, and I will be populated from the "Intended Methods" worksheet
 4) Indicate the final number of optional points being pursued by completing Column J ("Achieved Points")
 5) Complete form by signing the Green Development Agreement at the bottom of this worksheet, which identifies the responsibilities of each project member by Green Communities Criteria category.
 **Gray text within the spreadsheet (under "Green Development Agreement" section at bottom) indicates the type of information that could occupy that cell. It is not intended to be left in your final submission documents.

Complete this document by signing the Compliance Report Agreement at the bottom of this worksheet. Without the mandatory signatures, this document remains the project will not receive Step 2 Certification.

1: INTEGRATIVE DESIGN

Criteria Item	How Criterion will be implemented	If necessary, explain how the project deviated from the intended optional points laid out on the "Intended Methods" worksheet	Criteria Documentation		Champion	Intended Points
			Location of Measure in Project Documents	Spec page number / plan type for locating measure		
1.1a Green Development Plan: Integrative Design Meeting(s)	The project team has conducted one or more integrative design meeting(s) and submitted a Green Development Plan or equivalent documentation		Scope of Work		Architect	M
1.1b Green Development Plan: Criteria Documentation	The project team will create design and construction documentation (i.e. plans, details, and specifications) to include information on implementation of appropriate Enterprise Green Communities Criteria		Project Plans and Specifications	Index	Architect	M
1.2a Universal Design (New Construction only)	The project team designed a minimum of 15% of the dwelling units in accordance with ICC/ANSI A117.1, Type A, Fully Accessible guidelines, and the remaining ground floor units and elevator-reachable units with ICC/ANSI A117.1, Type B		Project Plans	Sheet A1.6	Architect	2
1.2b Universal Design (Substantial & Moderate Rehab only)						0
						2 Intended Points

2: LOCATION + NEIGHBORHOOD FABRIC

Criteria Item	How Criterion will be implemented	If necessary, provide additional information or explanation of alternative approach to meeting this measure	Criteria Documentation		Champion	Intended Points
			Location of Measure in Project Documents	Spec page number / plan type for locating measure		

Submittals

- **Green Communities Cost Development Worksheet**

GREEN COMMUNITIES COST DEVELOPMENT WORKSHEET

GREEN COMMUNITIES COST DEVELOPMENT WORKSHEET

Project Name	Sample MHA Project	Organization Name	MN Housing
Project Address	400 Sibley Street, Suite 300, St. Paul	Organization Contact	Michael J. Thomas, AIA, LEED-AP BD+C
Project Status	Application Phase	Date	2/10/2012

COST DEVELOPMENT WORKSHEET: This worksheet is a tool for project teams to track cost data at the criterion level. Within the tool below, please specify the costs incurred in satisfying the Green Communities Criteria to the best of your ability. This information will assist Enterprise Green Communities evaluate the costs and benefits of affordable housing.

This worksheet must be filled out and submitted within 60 days after completing construction. For additional information on how to submit go to www.greencommunitiesonline.org/tools/certification/

INSTRUCTIONS:

COST DATA COLLECTION:

- For each cost provided, please identify in Column E ("Cost Category") the category these costs pertain to: Design, Construction or Verification/Certification Costs. If total cost includes more than one category, please provide detail in notes section.
- The applicant should complete Column E ("Estimated Cost") during the development phase.
- The applicant should complete Column F ("Actual Cost") after construction has been completed, as a way to compare the estimated versus actual costs.
- Column G ("Calculated Incremental Cost") contains a formula and will automatically calculate the difference between estimated and actual costs.

1: INTEGRATIVE DESIGN

Criteria Item	Cost Category	Estimated Cost	Actual Cost	Calculated Incremental Cost	Intended Points
1.1a Green Development Plan: Integrative Design Meeting(s)		\$0.00	\$0.00	\$0.00	M
1.1b Green Development Plan: Criteria Documentation		\$0.00	\$0.00	\$0.00	M
1.2a Universal Design (New Construction only)		\$0.00	\$0.00	\$0.00	2
1.2b Universal Design (Substantial & Moderate Rehab only)		\$0.00	\$0.00	\$0.00	0
					2
					Intended Points

2: LOCATION + NEIGHBORHOOD FABRIC

Criteria Item	Cost Category	Estimated Cost	Actual Cost	Calculated Incremental Cost	Intended Points
2.1 Site Sensitive Selection (New Construction Only)		\$0.00	\$0.00	\$0.00	M

Submittals

- **Multifamily 5.1a**

- » 3 Story or less

- » **New Construction**

- **Certify**

- » **ENERGY STAR FOR HOMES v.3**

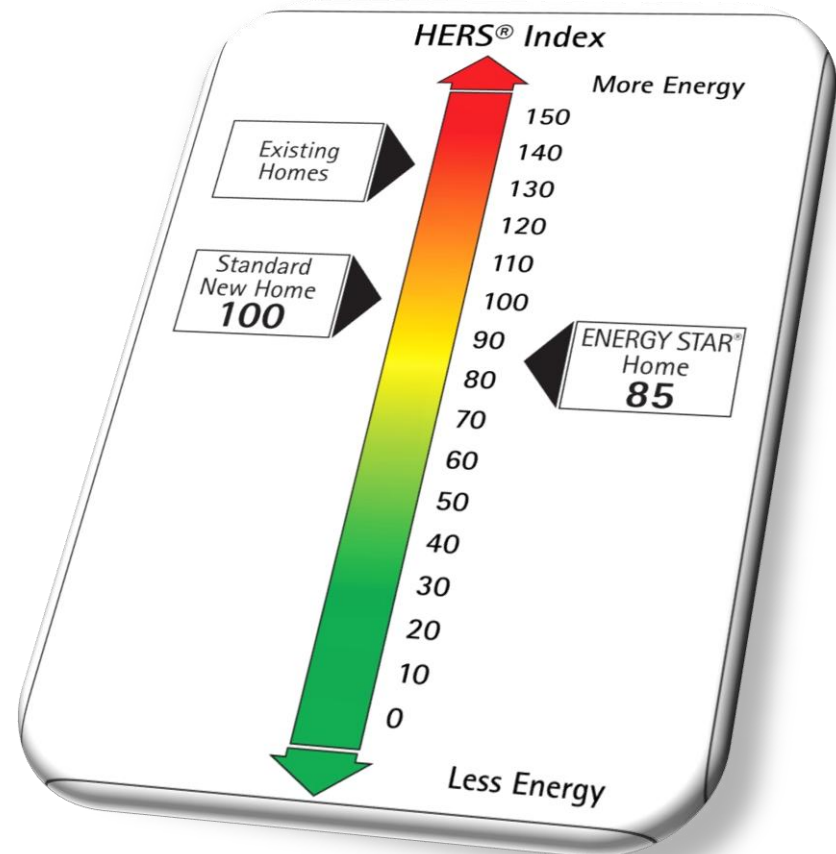


- **Preliminary HERS Report at Intake**



- **Single Family 5.1a**

- » **Same process**



Submittals

- **Multifamily 5.1b**
 - » 4 Story or more
 - » New Construction
- **Certify**
 - » **ENERGY STAR Multifamily High-Rise program (MFHR)**
-  **(Enterprise) Energy Performance Report Form**
- **Single Family**
 - » Not applicable

Click to add header

ENERGY PERFORMANCE REPORT FORM

Enterprise green communities™

Project Name: Date:

Instructions:

- Only multifamily projects four stories or more are required to fill out this form.
- Single-family and multifamily projects three stories or fewer should submit their HERS report
- Projects should upload this form along with their energy modeling report

Section I. General Information

Project Information		Building Modeling Information	
Project Name	<INSERT NAME>	Energy Modeling Company	
Project Street Address		Energy Modeler	
City		Phone	
State		Email	
Applicant Organization		Energy Modeling Software	
Contact Person Name		Baseline Energy Code Used	
Title of Contact Person		Total Conditioned Floor Area of Building (ft²)	
Phone		Heating Degree Days (HDD)	
Email			

Section II. Building Information and Modeled Energy Consumption

End-Use	Units	Annual Baseline Energy Consumption	Proposed Design Energy Consumption	% Improvement of Individual End-Use
Electric (USE KWH ONLY)				
Heating	kWh	0.00	0.00	#DIV/0!
Cooling	kWh	0.00	0.00	#DIV/0!
Domestic Hot Water	kWh	0.00	0.00	#DIV/0!
Ventilation	kWh	0.00	0.00	#DIV/0!
Lighting	kWh	0.00	0.00	#DIV/0!
Appliance and Plug Loads	kWh	0.00	0.00	#DIV/0!
Renewables	kWh	0.00	0.00	#DIV/0!
Miscellaneous	kWh	0.00	0.00	#DIV/0!
Gas (USE kBtu only)				
Space Heating	kBtu	0.00	0.00	#DIV/0!
Domestic Hot Water	kBtu	0.00	0.00	#DIV/0!
Appliances	kBtu	0.00	0.00	#DIV/0!
Fuel Oil (USE kBtu ONLY)				

Submittals

- **Multifamily 5.1c**

- » 3 Story or less
- » Substantial Rehab



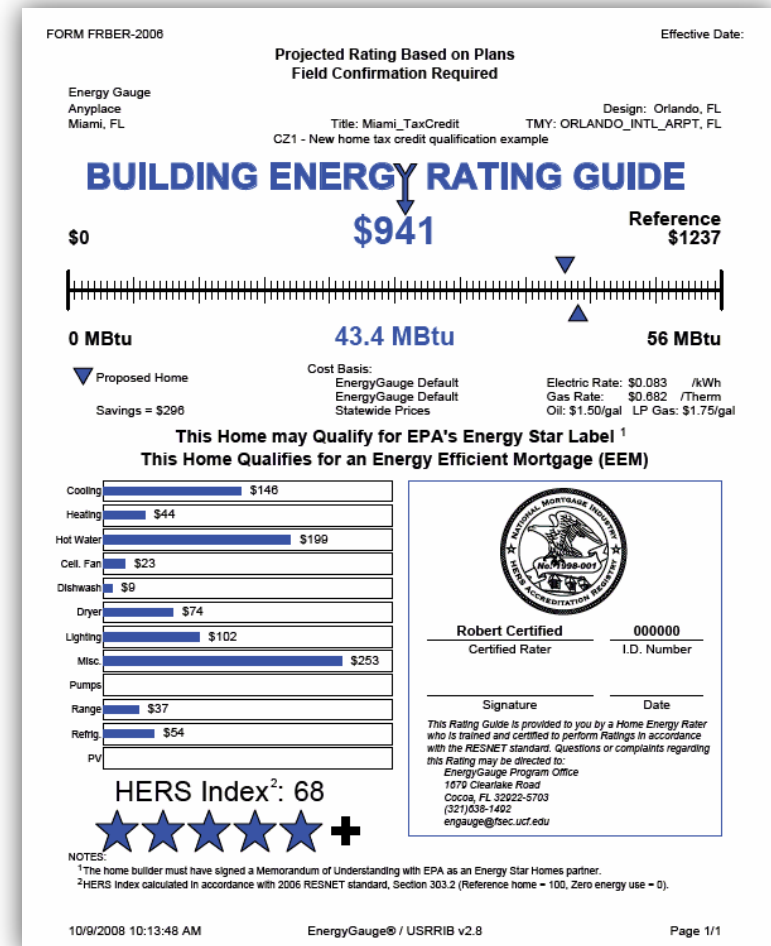
- **Preliminary Energy Modeling**

- » Software must be accredited by RESNET

- **Submit at Intake**

- **Single Family 5.1c**

- » Not required



Submittals

- **Multifamily 5.1c**
 - » 3 Story or less
 - » Moderate Rehab



- **Two Options**
 - » Energy Modeling, or
 - » Energy Efficiency Improvement Plan
- **Submit Plan at Intake**
- **Single Family 5.1c**
 - » Not Required



Submittals

- **Multifamily 5.1d**
 - » 4 Story or more
 - » Substantial Rehab



• (Enterprise) Energy Performance Report Form

- Submit at Intake

- **Single Family**
 - » Not applicable

ENERGY PERFORMANCE REPORT FORM

Enterprise green communities™

Click to add header

Project Name:

Date:

Instructions:

- Only multifamily projects four stories or more are required to fill out this form.
- Single-family and multifamily projects three stories or fewer should submit their HERS report
- Projects should upload this form along with their energy modeling report.

Section I. General Information

Project Information		Building Modeling Information	
Project Name	<INSERT NAME>	Energy Modeling Company	
Project Street Address		Energy Modeler	
City		Phone	
State		Email	
Applicant Organization		Energy Modeling Software	
Contact Person Name		Baseline Energy Code Used	
Title of Contact Person		Total Conditioned Floor Area of Building (ft²)	
Phone		Heating Degree Days (HDD)	
Email			

Section II. Building Information and Modeled Energy Consumption

End-Use	Units	Annual Baseline Energy Consumption	Proposed Design Energy Consumption	% Improvement of Individual End-Use
Electric (USE KWH ONLY)				
Heating	kWh	0.00	0.00	#DIV/0!
Cooling	kWh	0.00	0.00	#DIV/0!
Domestic Hot Water	kWh	0.00	0.00	#DIV/0!
Ventilation	kWh	0.00	0.00	#DIV/0!
Lighting	kWh	0.00	0.00	#DIV/0!
Appliance and Plug Loads	kWh	0.00	0.00	#DIV/0!
Renewables	kWh	0.00	0.00	#DIV/0!
Miscellaneous	kWh	0.00	0.00	#DIV/0!
Gas (USE kBtu only)				
Space Heating	kBtu	0.00	0.00	#DIV/0!
Domestic Hot Water	kBtu	0.00	0.00	#DIV/0!
Appliances	kBtu	0.00	0.00	#DIV/0!
Fuel Oil (USE kBtu ONLY)				
Space Heating	kBtu	0.00	0.00	#DIV/0!
Domestic Hot Water	kBtu	0.00	0.00	#DIV/0!

Submittals

- **Multifamily & Single Family**

- » Moderate Rehab

- ✓ • **Water Efficiency Improvement Plan**

- ✓ • **Energy Efficiency Improvement Plan**

- » **Criteria 5.1c Building Performance Standard:**

- **Moderate Rehab – 3 stories or less**

Submit at Intake



Submittals

- MF & SF Submittal (and Documentation) Summary Table**



Requirement	Multifamily				Single Family		
	Initial App.	Intake Meeting	Loan Com. / Closing	End of Const.	CRV Initial App.	CRV End of Const.	Non CRV
Intended Methods of Meeting the Criteria / Green Development Agreement (with signatures)	Yes		Yes ⁴		Yes		
Waiver Request Form(s) if applicable	Yes ³				Yes ³		
Water Efficiency Improvement Plan (Moderate Rehab)		Yes ³				Yes ¹	
Energy Efficiency Improvement Plan (Moderate Rehab)		Yes ³				Yes ¹	
Blower Door Test		Yes ³				Yes ¹	
HERS Reports (New Construction & Substantial Rehab - 3 stories or less)		Yes ³				Yes ^{1,5}	
Energy Performance Report Form (NC & Substantial Rehab – 4 stories or more)		Yes					
Integrated Design Meeting Documentation			Yes ²				
Green Communities Compliance Report / Compliance Report Agreement (with signatures)				Yes		Yes ¹	
Cost Development Worksheet				Yes			
See applicable program procedural manual							Yes

Added to Revised MN Overlay 05-17-12

Waiver Policy

- **Waivers should be an exception, not rule**
- **Demonstrable tangible hardship or inadvisable**
- **Potential reasons:**
 - » **Demonstrated unavailability of product or required professional**
 - » **Demonstrated reason why compliance impractical/impossible**

Waiver Process



- **Include completed waiver request form with application**
 - » **Previously, the waiver process was a section within the Intended Methods Form. It's now a separate document available at the Enterprise Green Communities website.**

**Enterprise
green
communities**

Waiver Request

Project name: Minnesota Housing Sample
Organization name: MHFA
Project address: Street, St. Paul, MN

Criterion Number and Title: 5.5a Efficient Lighting: Interior Units
Category: Multifamily New Construction
Date: 03/06/12

Criteria & Overlay in Detail

- **Changes from 2008 to 2011 Green Communities Criteria**
- **Changes from 2010 to New MN Overlay**
- **Appendices & Glossary**
- **Certification Workbook Demonstration**



Criteria & Overlay in Detail

1.1b

Mandatory **Green Development Plan: Criteria Documentation**

REQUIREMENTS

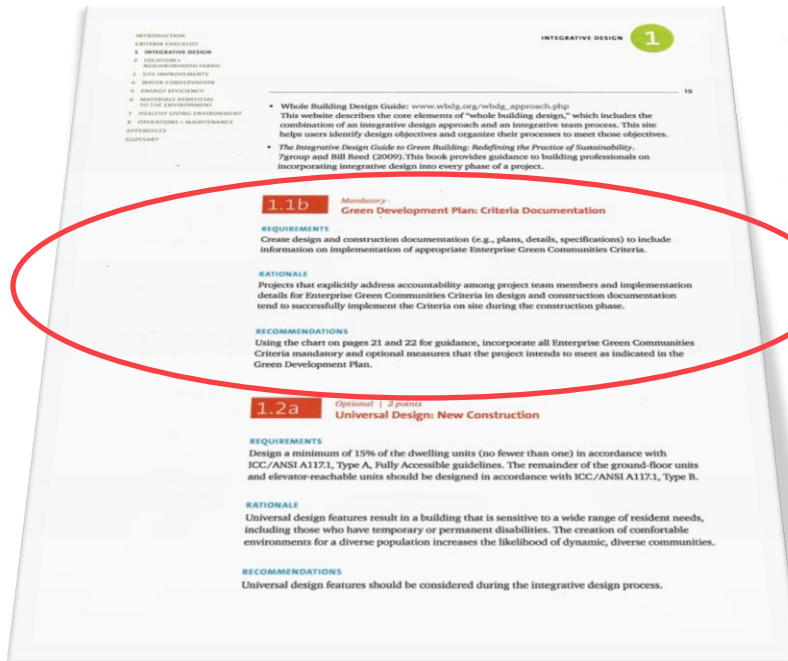
Create design and construction documentation (e.g., plans, details, specifications) to include information on implementation of appropriate Enterprise Green Communities Criteria.

RATIONALE

Projects that explicitly address accountability among project team members and implementation details for Enterprise Green Communities Criteria in design and construction documentation tend to successfully implement the Criteria on site during the construction phase.

RECOMMENDATIONS

Using the chart on pages 21 and 22 for guidance, incorporate all Enterprise Green Communities Criteria mandatory and optional measures that the project intends to meet as indicated in the Green Development Plan.



Criteria & Overlay in Detail

- **8 Criteria Categories**
 - **1 Integrated Design**
 - **2 Location + Neighborhood Fabric**
 - **3 Site Improvements**
 - **4 Water Conservation**
 - **5 Energy Efficiency**
 - **6 Materials Beneficial to the Environment**
 - **7 Healthy Living Environment**
 - **8 Operations + Maintenance**



Category 1

Integrated Design (4) M & (2) O

- Integrated Design
- Criteria Documentation
- Universal Design



Category 1 - Integrated Design

- **1.1a Green Development Plan: Integrated Design Meeting(s)**

- **Mandatory**
- **Both MF & SF**



- » **Prior to Loan Commitment/ Closing, provide Integrated Design Meeting(s) documentation.**
- » **See the “Best practices in documenting” section of the criteria.**

Category 1 - Integrated Design

- **1.1b Green Development Plan: Criteria Documentation**

- **Mandatory**

- **Both MF & SF**



» **Use chart on pages 21-22 of the 2011 EGCC**

- **To prepare Construction Drawings**

- **To prepare Specifications**

INTEGRATIVE DESIGN

1

CRITERION		PROJECT PLANS	SPEC BOOK
1.1a-b	Green Development Plan: Integrative Design Meeting(s)		
1.2a-b	Universal Design	X	X
2.1	Sensitive Site Protection	X	
2.2	Connections to Existing Development and Infrastructure	X	
2.3	Compact Development (Mandatory)		

21

Category 2 – Location + Neighborhood Fabric (5) M & (8) O

- Sensitive Site Protection
- Conn. to Existing Dev. & Infrastructure
- Compact Development
- Proximity to Services
- Preservation of and Access to Open Space
- Access to Public Transportation
- Walkable Neighborhoods
- Passive Solar Heating/ Cooling
- Brownfield/ Adaptive Re-use
- Access to Fresh Local Foods
- LEED ND Certification



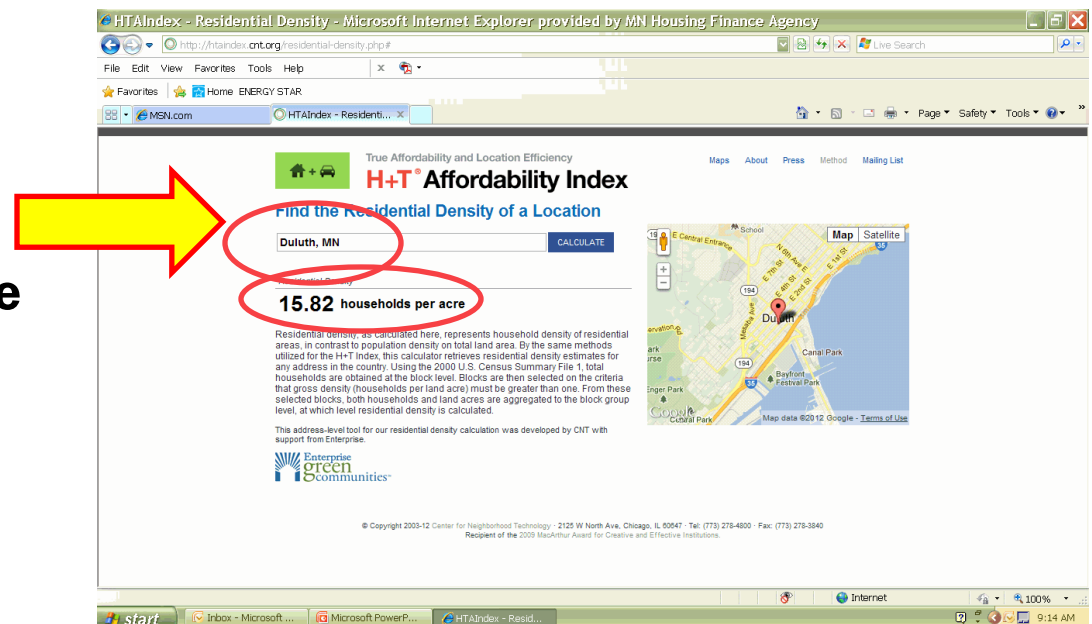
Category 2 – Location + Neighborhood Fabric

- Center for Neighborhood Technology
 - » Housing + Transportation Affordability Index (H+TAI)
 - » <http://htaindex.cnt.org/>
 - » <http://htaindex.cnt.org/residential-density.php>
 - Expanded custom for EGCC for residential density

Duluth, MN

15.82 households per acre

How to calculate density



Category 2 – Location + Neighborhood Fabric



• Calculating Density

» Urban/ Small Cities

- 7 DU's (households) per acre or more
 - $H+TAI \times 1.5$

» Suburban/ Mid-Size Towns

- 7 DU's (households) per acre or less
 - $H+TAI \times 1.5$

» Rural/ Tribal/ Small Towns

- Prescriptive

• Sample

» Duluth, MN is an Urban/ Small City

- Using the expanded H+T Affordability Index, Duluth has 15.82 households per acre.



Category 2 – Location + Neighborhood Fabric

- **2.2 Connection to Existing Development and Infrastructure**

- **Mandatory**
- **Both MF & SF**



»

Exception:

- **Rural tribal land, colonial communities, or population of < 10,000**

Category 2 – Location + Neighborhood Fabric

- **2.3 Compact Development**

- **Mandatory**

- **Both MF & SF**



- » **Urban/ Small Cities**

- **10 DU's per acre or at least 75% of net residential density**

- ▶ **Duluth 23.73 (from previous example) x .75 = 17.8**

- ▶ **17.8 is greater than 10, so 17.8 is the minimum density**



- » **Suburban/ Mid-Size Towns**



- » **Rural/ Tribal/ Small Towns**



- » **Previous Green Communities had one size fits all for density. MN instrumental in establishing three categories!**

Category 2 – Location + Neighborhood Fabric

- **2.5 Proximity to Services**

- **Mandatory**
- **Both MF & SF**



»

Urban/ Small Cities

- **0.25 miles walk distance of at least 2**
- **0.5 miles walk distance of at least 4**



»

Suburban/ Mid-Size Towns

- **0.5 miles walk distance of at least 3**
- **1 mile walk distance of at least 6**



»

Rural/ Tribal/ Small Towns

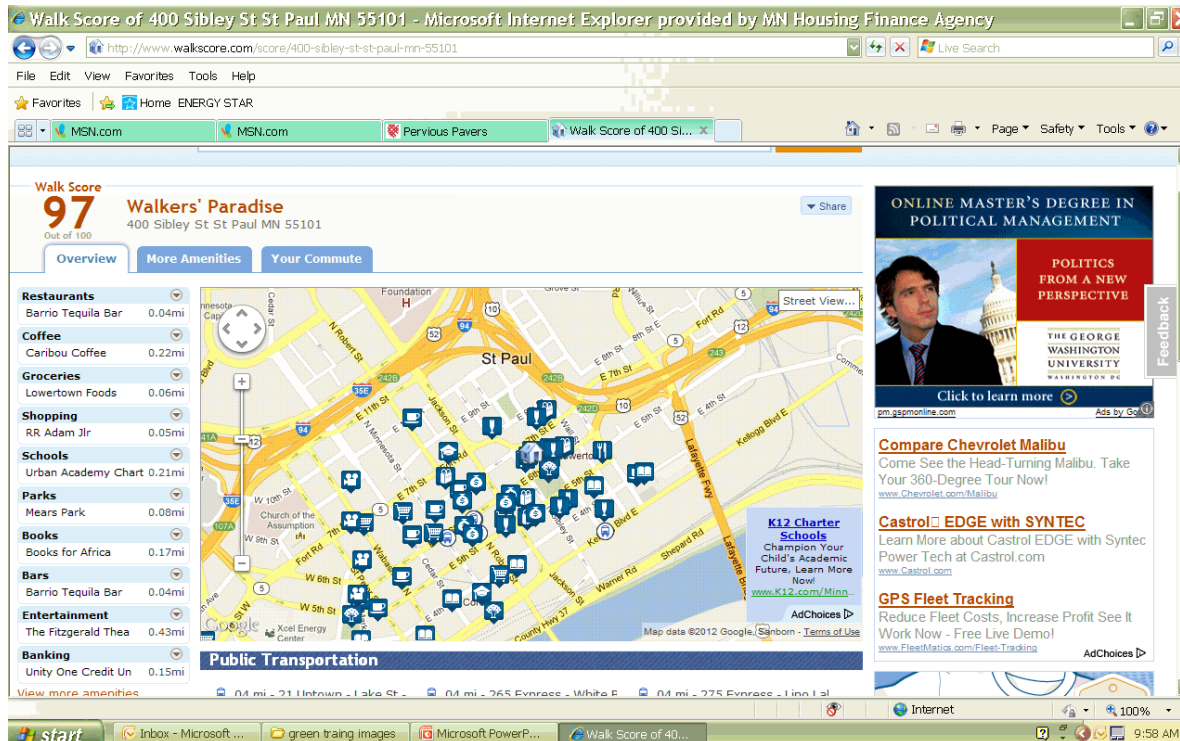
- **2 miles of at least 2**
- **Except Tribal, Colonials Communities, or pop. < 10,000**

Category 2 – Location + Neighborhood Fabric

- **2.5 Proximity to Services**

Walk Score

<http://www.walkscore.com/>



Category 3 - Site Improvements (5) M & (1) O

- Environmental
- Erosion & sedimentation control
- Low-Impact
- Landscaping
- Efficient irrigation & water use
- Surface storm water management



Category 3 – Site Improvements

- **3.1 Environmental Remediation**

- » **MN OVERLAY CRITERIA**

- **Mandatory**

- » **Multifamily**

- **Delete the EGCC criteria and replace with Minnesota Housing's Environmental Assessments Requirements**

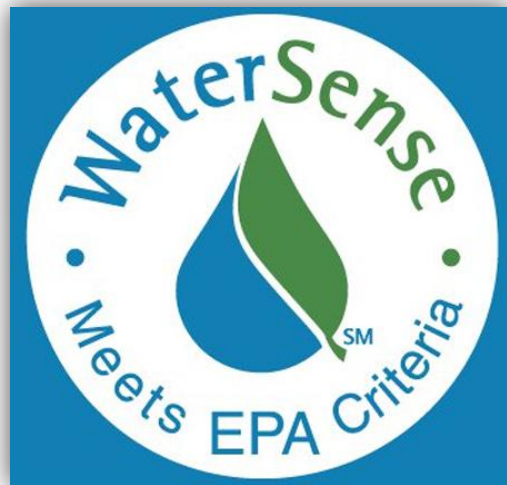
- http://www.mnhousing.gov/housing/architects/MHFA_007967.aspx

Category 3 – Site Improvements

- **3.1 Environmental Remediation (continued)**
 - » **MN OVERLAY CRITERIA**
 - **Mandatory**
 - » **Single Family**
 - **Delete the EGCC criteria and replace with:**
 - ▶ **Phase I ESA if following conditions**
 - 5 or more units where land changed from commercial, institutional, or agricultural
 - New construction not connected to municipal water supply
 - Rehab not connected municipal water supply or active well
 - If required as a condition of acquisition / purchase

Category 4 - Water Conservation (1) M & (2) O

- Water-Conserving Fixtures
- Water Reuse



Category 4 – Water Conservation

Tip:

Maximum Performance Testing (MaP) is a great resource for toilets that work and still meet:

Mandatory 1.28 gpf

Optional 1.2 gpf

- <http://www.map-testing.com/>

No Waivers!

Category 4 – Water Conservation

- **4.1 Water-Conserving Fixtures (continued)**

- **MN OVERLAY CRITERIA**

- » **Multifamily**



- **Moderate Rehab**

- ▶ **If plumbing fixture effective remaining life is < 7 years, replace to comply**
 - ▶ **If plumbing fixture effective remaining life is > 7 years,**
 - **Provide a Water Efficiency Improvement Plan**
 - **Assess water consumption of each fixture (5% DU sampling)**
 - **Generate list of prioritized cost effective improvements**
 - **Implement if a cost benefit can be realized in 2 years or less**

Category 4 – Water Conservation

- **4.1 Water-Conserving Fixtures (continued)**

- **MN OVERLAY CRITERIA**



- » **Single Family**

- **Same as Multifamily**
 - **All Dwelling Units (DU's) assessed**

Category 4 – Water Conservation

- **4.1 Water-Conserving Fixtures (continued)**

- **MN OVERLAY CRITERIA**

- » **Helpful Information – Effective Remaining Life**



- » **Minnesota Housing's Physical Needs Assessment (MF only)**

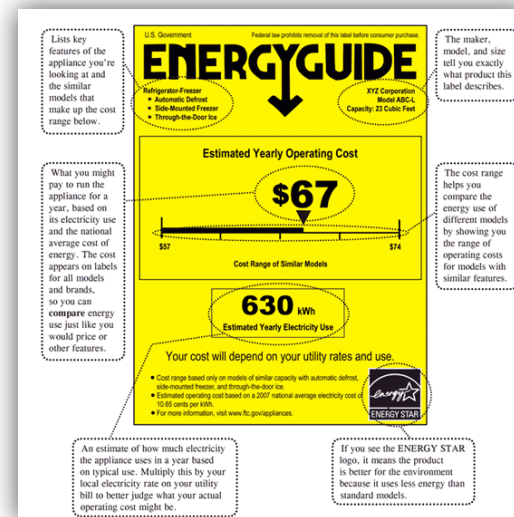
- **Property Inspection Template**

- http://www.mnhousing.gov/housing/architects/MHFA_011937.aspx

Life Expectancy (in years)					
Element	Type	Estimated Age	(EUL) Expected Useful Life	(ERL) Effective Remaining Life	Comments
Roof					
Siding/ Exterior Walls					
Windows					
Doors – Exterior Entry					
Doors – Garage/ O.H.					
Plumbing Fixtures					
HVAC Systems					
Kitchen Appliances					
Other					

(10) M & (5) O

- 



Category 5 – Energy Efficiency



- **Big changes for Category 5 !**
- **Certify under ENERGY STAR – Building Type**
- <http://www.energystar.gov/>
- **ENERGY STAR New Homes Version 3**
 - **Performance Path (15% or better), or**
 - **Prescriptive Path**
- **ENERGY STAR Multifamily High-Rise program (MFHR)**
 - **Performance Path**
 - **15% better than ASHRAE 90.1 2007**
 - **Or, Prescriptive Path**



Category 5 – Energy Efficiency

- ✓ • **ENERGY STAR Raters**
 - » Must be a Third Party Provider
 - » Not associated with project design engineer, architect, owner/ developer, nor contractor(s)
 - » Certified by Residential Network (RESNET)
- ✓ • **Energy Modeling**
 - » May be included in design engineer or architect's contract
- ✓ • **Energy rating software**
 - » For SF & MF buildings 3 stories or less must be accredited by RESNET



Category 5 – Energy Efficiency



- **Energy Raters**

- » For a list of providers in Minnesota by metro area and city go to:
- » <http://www.residentialscience.com/mngreencommunities-list.html>



Category 5 – Energy Efficiency



- **Costs/ Fees for Raters and Modeler**
 - » **Should be a separate line item on the project budget (MF Draw Form). It is not part of the basic architect's fee in Minnesota Housing's Architect's Guide**
 - » **Architect's Guide available at:**
<http://www.mnhousing.gov/housing/architects/index.htm>

Category 5 – Energy Efficiency

- **5.1a Building Performance Standard**

- **MN OVERLAY CRITERIA**

- » **NC: Single-family and Multifamily buildings, three stories or fewer**
 - » **Mandatory**



- **Certify the project under ENERGY STAR Version 3**



- **OVERLAY**

- » **Air Conditioning Contractor's of America (ACCA) certified HVAC Contractors. There may not be enough to serve the demand. So, not required but still meet other requirements**

Category 5 – Energy Efficiency

- **5.1a Building Performance Standard (continued)**
 - » **MN OVERLAY CRITERIA**



- **OVERLAY**

- » **Multifamily**

- » Performance Path for multiple units and common areas. Ignore common spaces and apply commons space efficiencies to the typical unit's efficiencies
 - » Prescriptive Path may use ENERGY STAR Multifamily High Rise Guidelines

- » **Single Family**

- » No overlay



Category 5 – Energy Efficiency

- **5.1b Building Performance Standard**

- » **NC: Multifamily buildings, four stories or more**

- **Mandatory**



- » **Meet the ENERGY STAR Multifamily High-Rise program (MFHR) guidelines**



- » **Or, Dwelling Units (DU's) with their own heating, cooling, and hot water in 4 and 5 story buildings my use ENERGY STAR New Homes Version 3**

- **No overlay. New Construction four stories or more must follow and comply with this criteria**

Category 5 – Energy Efficiency

- **5.1c Building Performance Standard**

- **MN OVERLAY CRITERIA**

- » **Substantial and Moderate Rehab: Single-family and multifamily, three stories or fewer**
 - » **Mandatory**

- **Multifamily**

- » **Substantial Rehab shall meet criteria. No Overlay**
 - » **Moderate Rehab: Overlay applies**



- **Single Family**

- » **Both Substantial and Moderate Rehab: Overlay applies**



Category 5 – Energy Efficiency

- **5.1c Building Performance Standard**

- **MN OVERLAY CRITERIA**

- » **Substantial & Moderate Rehab: SF and MF, 3 stories or less**
 - » **MANDATORY**

- **OVERLAY**

- **MF HERS Index of 85 for Moderate Rehab**



- We understand that meeting an Index of 85 may not be achievable for Moderate Rehab, therefore:

- **Either follow criteria and provide energy modeling, Or**
 - **Provide an Energy Efficiency Improvement Plan**



Category 5 – Energy Efficiency

- **5.1c Building Performance Standard (continued)**

- **MN OVERLAY CRITERIA**



- **Multifamily** Moderate Rehab Energy Efficiency Improvement Plan

- Items scheduled to remain with a 7 year Effective Useful Life
- Sample protocol of 5% or one per different DU type whichever is greater
- Generate list of prioritized cost effective improvements
- Implement items with good Cost Benefit (return on investment)
- Cost Benefit through software or manual assessment
- Post renovation inspection

Category 5 – Energy Efficiency

- **5.1c Building Performance Standard (continued)**

- **MN OVERLAY CRITERIA**



- **Single Family** Substantial & Moderate Rehab Energy Efficiency Improvement Plan

- Create and implement an Energy Efficiency Improvement Plan in accordance with the technical guidelines as outlined in the Minnesota Field Guide (Chapter 2.1.1)
- Generate list of prioritized cost effective improvements
- Implement items with good Cost Benefit (return on investment)
- Cost Benefit through software or manual assessment
- Post renovation inspection and blower door test

Category 5 – Energy Efficiency

- **5.1c Building Performance Standard (continued)**

- **MN OVERLAY CRITERIA**



- **For both MF & SF - Items replaced shall meet the minimum efficiencies located in the Criteria 5.1c Addendum issued by Enterprise Green Communities**

- **<http://www.enterprisecommunity.com/servlet/servlet.FileDownload?file=00P300000009NudvEAC>**



- **Or, items replaced shall meet the DOE Energy Star Builder Option Package**

Category 5 – Energy Efficiency

• 5.1c Building Performance Standard (continued)

▪ MN OVERLAY CRITERIA



New 5.1c Addendum by Enterprise Green Communities

Building Performance Standard 5.1c: Guidelines for Moderate and Substantial Rehab Projects Addendum

Issued October 1, 2011 - Effective Immediately Upon Release

Certain building construction types undergoing a moderate or substantial rehabilitation as defined by the 2011 Enterprise Green Communities Criteria are unable to achieve a Home Energy Rating System (HERS) Index of 85¹ as required by Enterprise Green Communities mandatory criterion 5.1c without undertaking drastic renovations to the building envelope that may not be feasible under the project scope and budget. These building types either do not have insulation, and/or their construction type (e.g., double- or triple-brick masonry construction) does not allow for them to install insulation. In response, Enterprise has developed the following alternative compliance pathway.

Alternative Compliance Pathway Building Performance Standard 5.1c - Single Family and Low-Rise Multifamily (3 stories or fewer)

Single family and low-rise multifamily (3 stories or fewer) moderate rehab projects built pre-1980, and single family and low-rise multifamily (3 stories or fewer) substantial rehab projects built pre-1980 that have walls made of only brick / masonry walls are eligible to use the addendum. Substantial rehab projects that were built after 1980 and/or used other construction methods besides brick / masonry, such as wood frame construction, cannot use this addendum.

Eligible projects must meet the following requirements.

1. Achieve a HERS Index of 100 or less,
2. Projects must follow the guidance under the “recommendations” section of the Criterion 5.1c of the 2011 Enterprise Green Communities Criteria,
3. Replace the cooling, heating and domestic hot water equipment with the minimum efficiencies indicated in the table below^{2,3}.

Climate Zone / State	Cooling System ⁴	Heating System ⁴ above	Domestic Hot Water
1, 2, 3	≥ 14.5 SEER/ 12 EER ENERGY STAR qualified A/C; OR	≥ 80 AFUE gas furnace; OR ≥ 14.5 SEER/ 12 EER/ 8.2 HSPF ENERGY STAR qualified heat pump; OR	

Category 5 – Energy Efficiency

- **5.1d Building Performance Standard**

- » **Substantial and Moderate Rehab: Multifamily, four stories or more**

- **Mandatory**

- **MF Substantial Rehab** shall comply with criteria. No Overlay



- **MF Moderate Rehab**

- » **Energy performance = to ASHRAE 90.1-2007 in Moderate Rehab may be unreasonable. Therefore, not required.**

- » **An Energy Efficiency Implementation Plan similar to 5.1c shall be provided.**

Category 5 – Energy Efficiency

- **5.5a Efficient Lighting: Interior Units**

- **Mandatory**

- **New Construction – SF & MF Buildings**

- » 3 stories or less
 - » Install all fixtures to ENERGY STAR Advanced Lighting Package (ALP)
 - » ENERGY STAR qualified LED ok
 - » Screw-base lamps permitted only at uninhabited spaces such as closets and storage



- **New Construction – MF Buildings**

- » 4 stories or more
 - » Follow ENERGY STAR MFHR program – 80% ENERGY STAR qualified fixtures, Or ENERGY STAR qualified lamps
 - » Screw-base lamps permitted only at uninhabited spaces such as closets and storage

Category 5 – Energy Efficiency

- **5.5a Efficient Lighting: Interior Units**

- **Mandatory**

- **Substantial and Moderate Rehab – SF & MF Buildings**

- » **If being replaced, fixtures and ceiling fans shall meet ENERGY STAR efficiency levels.**



- » **If re-using fixtures in a rehab, projects must install screw-in compact fluorescent light bulbs (CFL)**

- **Exception: CFL's not required at existing dimmable fixtures**

Category 5 – Energy Efficiency

- **5.5a Efficient Lighting: Interior Units**

- **Mandatory**



» **Note: “re-used” shall be defined as**

- **fixtures which remain in place and will be used in the completed project, and/or**
 - **fixtures which are removed, salvaged and reinstalled at the same location or at a new location (or new/ different project site)**

Category 5 – Energy Efficiency

- **5.5c Efficient Lighting: Exterior**

- **Mandatory**

- **New Construction – MF Buildings**

- » **4 stories or more**



- » **Follow ENERGY STAR MFHR program – 80% ENERGY STAR qualified fixtures, Or ENERGY STAR qualified lamps**

- » **Automatic switches on timers or photocell unless:**

- **24 hour operation for security**

- **Or located on apartment balconies**

Category 5 – Energy Efficiency

- **5.6a Electricity Meter**

- **Mandatory at NC and Substantial Rehab**



» **Except for SRO and designated Supportive Housing DU's**

- **5.6b Electricity Meter**

- **Optional / 3 Points**

» **Moderate Rehab**



Category 6 – Materials Beneficial to the Environment (3) M & (7) O

- Low Volatile Organic Compounds (VOC)
- Construction Waste Management
- Recycling Storage/ Content Material
- Regional Material Selection
- Certified, Salvaged, & Engineered Wood
- Heat-Island Effect



Category 6 – Materials Beneficial to the Environment

- **6.3 Construction Waste Management**

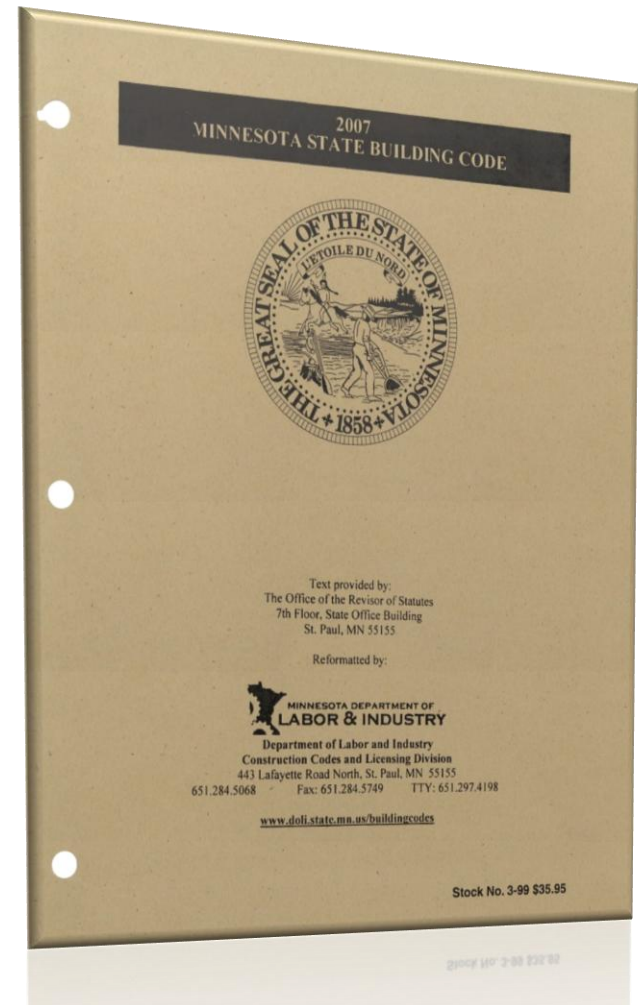
- **Mandatory** (previously optional)



- **Waste management plan that reduces non-hazardous construction and demolition waste by at least 25% by weight through recycling, salvaging, or diversion strategies**

Category 6 – Materials Beneficial to the Environment

- **6.5 Recycling Storage for Multifamily Project**
 - **Optional / 5 Points**
 - » **Easy Points!**
 - » **Space required by State Building Code**



Category 7

Healthy Living Environment (16) M & (5) O

- Composite Wood/Formaldehyde
- Flooring
- Exhaust Bath & Kitchen
- Ventilation
- Clothes Dryer Exhaust
- Combustion Equipment
- Mold Prevention
- Vapor Barrier Strategies
- Radon Mitigation
- Water Drainage
- Garage Isolation
- Integrated Pest Mngt.
- Lead-Safe Work Practices
- Smoke-Free Building



Category 7


Healthy Living Environment

- **7.2 Environmentally Preferable Flooring**

- » **MN OVERLAY CRITERIA**

- **Mandatory**
 - **Both MF & SF**

- » **If project scope includes provisions of flooring**

-  • **Do not install carpets in entryways, laundry rooms, bathrooms, kitchens/ kitchenettes, utility rooms, or any rooms of ground-connected floors**

- » **Ground-Connected Slabs Exception**

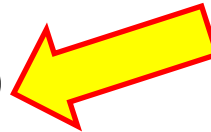
- **With vapor barrier and finish grade is lower than finish floor**
 - **Allowed at basement with functioning drain tile system**
 - **Capillary Break and Vapor Barrier Assembly**

Category 7

Healthy Living Environment

- **7.5a Exhaust Fans: Kitchen**

- **Mandatory** (no more waivers!)



- » **NC and Substantial Rehab**

- » **Both MF & SF**

- **Power-vented fans or range hoods that exhaust to the outdoors at an intermittent rate of 100 cfm; Or**
- **Power-vented fans or range hoods that exhaust to the outdoors at a continuous rate of five air changes per hour based upon kitchen volume; Or**
- **Central ventilation system with rooftop fans**
 - **Up to 300 design cfm direct-drive and variable speed control at fan**
 - **300 – 2000 cfm direct-drive, variable speed control and electronically communicated motors with speed controllers at fan.**

Category 7

Healthy Living Environment

- **7.7 Clothes Dryer Exhaust**
 - **Mandatory**
 - **Both MF & SF**
 - » **Note: Already required as part of Minnesota Housing's Rental Housing Design/ Construction Standards (RHD/CS) *Multifamily***
 - » **If working with a dryer vent, specify rigid type & exhaust to outdoors**
 - » **If non-rigid exhaust vent in place, it is still recommended for replacement**



Category 7

Healthy Living Environment

- **7.9a Mold Prevention: Water Heaters**
 - **Mandatory**
 - » *Note: Already required as part of Minnesota Housing's Rental Housing Design/ Construction Standards (RHD/CS) Multifamily*
 - » Adequate drainage or disaster pan piped to drain

Category 7

Healthy Living Environment

- **7.9b Mold Prevention: Surfaces**

- **Mandatory**

- » **Note: Already required as part of Minnesota Housing's Rental Housing Design/ Construction Standards (RHD/CS) *Multifamily***

- **Durable, clean surfaces**

- » **Bathrooms**
 - » **Kitchens**
 - » **Laundry rooms**

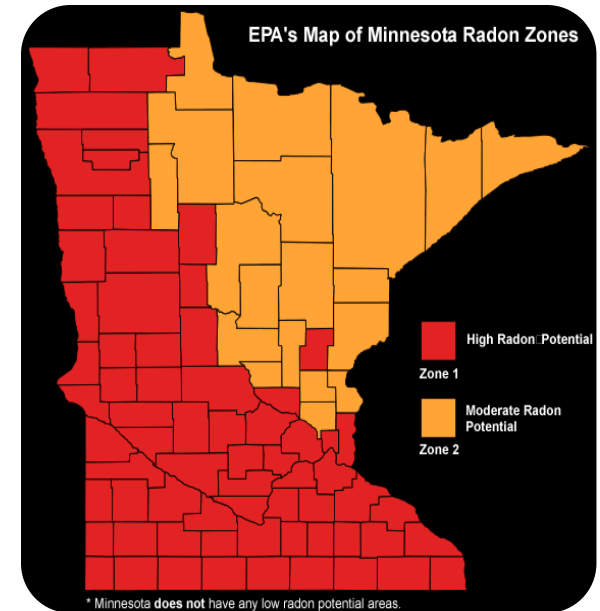


Category 7

Healthy Living Environment



- **7.11 Radon Mitigation (continued)**
 - » **MN OVERLAY CRITERIA**
 - **Mandatory**
 - » **MN Overlay completely replaces this criteria.**
- **Many MN Homes have Radon!**
- **How is Radon Measured**
 - » **picoCuries/liter of air (pCi/L)**
 - **A pCi/L is equal to 2.22 radioactive disintegrations per minute per liter of air**
 - » **EPA's Action Level is 4.0 pCi/L**
 - **There is no safe level of radon**



Category 7

Healthy Living Environment

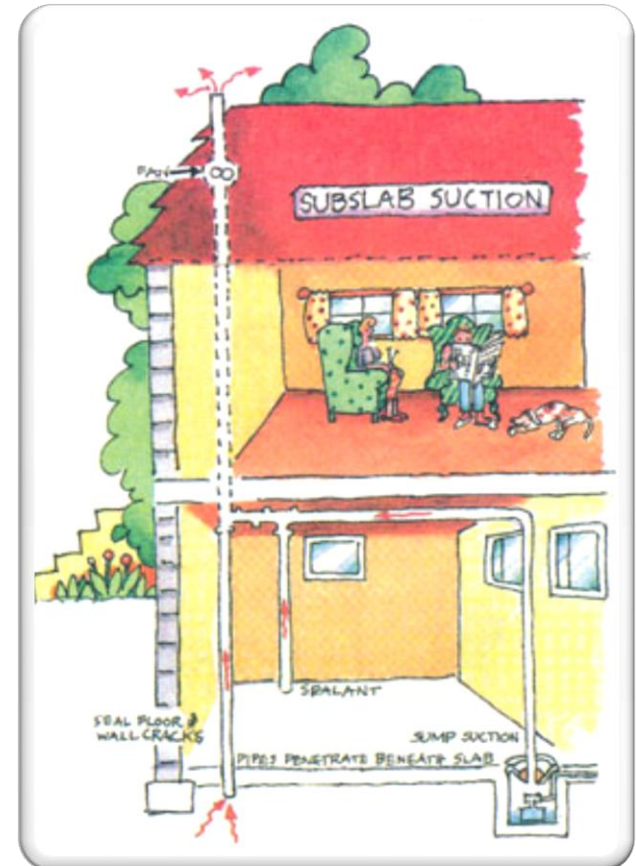
✔ • 7.11 Radon Mitigation (continued)

» MN OVERLAY CRITERIA

▪ Mandatory

» Sub-slab Depressurization

» Passive or Active



Category 7

Healthy Living Environment

- **7.11 Radon Mitigation (continued)**

- » **MN OVERLAY CRITERIA**

- **Mandatory**



- **Multifamily**

- » **New Construction**

- **Provide passive system, 4" dia. pipe every 3,000 sf or each townhome**
- **Test after construction (before move-in)**
- **Convert to Active system if 4 pC/l or greater**

Category 7

Healthy Living Environment

- **7.11 Radon Mitigation (continued)**

- » **MN OVERLAY CRITERIA**

- **Mandatory**



- **Multifamily (continued)**

- » **Substantial Rehab**

- **Prescriptive Approach**

- ▶ 4" dia pipe every 3,000 sf or each townhome
 - ▶ Suction pit 3' dia x 1' deep
 - ▶ Test after construction (before move-in)
 - ▶ Convert to Active system if 4 pC/l or greater

- **Performance Approach**

- ▶ Analysis and design by a Radon Contractor/ Mitigation Service Provider

Category 7

Healthy Living Environment

- **7.11 Radon Mitigation (continued)**

- » **MN OVERLAY CRITERIA**

- **Mandatory**

- **Multifamily (continued)**



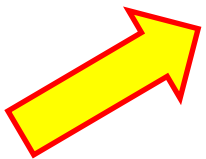
- » **Moderate Rehab**

- Not required, however if voluntarily provided follow approached noted in Substantial Rehab



- » **Underground garages serving Multifamily projects**

- No Radon control at underground garages.



Category 7

Healthy Living Environment

- **7.11 Radon Mitigation (continued)**

- » **MN OVERLAY CRITERIA**

- **Mandatory**



- **Single Family**

- » **New Construction**

- **At a minimum provide Passive system to meet MN State Building Code**
 - **Strongly recommend Active system per MN Department of Health Gold Standard**

Category 7

Healthy Living Environment

- **7.11 Radon Mitigation (continued)**

- » **MN OVERLAY CRITERIA**

- **Mandatory**



- **Single Family (continued)**

- » **Rehab without envelope improvement**

- **Test before construction**

- **If results are 4 pC/l or greater mitigate by a Radon Contractor/ Mitigation Service Provider**

Category 7

Healthy Living Environment

- **7.11 Radon Mitigation (continued)**

- » **MN OVERLAY CRITERIA**

- **Mandatory**



- **Single Family (continued)**

- » **Rehab with envelope improvements**

- **Test before construction, mitigate if required, and provide Passive system. Re-test after construction and convert to active if results are 4 pC/l or greater, Or**
 - **Do not test before construction.**
 - ▶ **Install a Passive system, test after construction and convert to Active if needed.**

Category 7

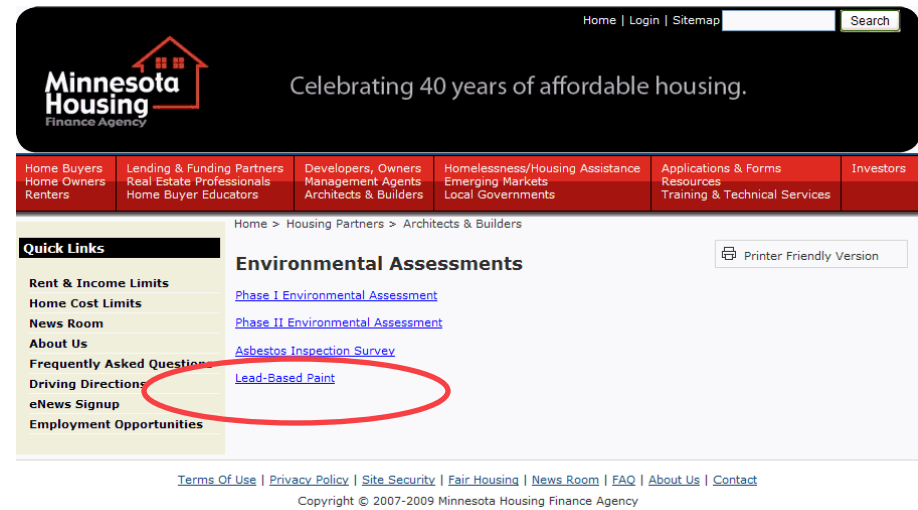
Healthy Living Environment

- **7.11 Radon Mitigation (continued)**
 - » **MN OVERLAY CRITERIA**
 - » **MDH - Indoor Environments & Radiation Section**
 - » **Indoor Air Unit**
 - » **www.health.state.mn.us/radon**
 - » **PO Box 64975**
 - » **St. Paul, MN 55164-0975**
 - » **U.S. Environmental Protection Agency**
 - **<http://www.epa.gov/radon/>**

Category 7

Healthy Living Environment

- **7.15 Lead-Safe Work Practices**
 - » **MN OVERLAY CRITERIA**
 - **Mandatory**
 - **Both MF & SF**
 - » **MN Overlay replaces this criteria with Minnesota Housing's Lead-Based Paint Policy**
 - » **Go to:**
http://www.mnhousing.gov/housing/architects/MHFA_007967.aspx



Category 8

Operations + Maintenance (3) M & (1) O

- **8.1 Building Maintenance Manual**
 - **Mandatory**
 - » For all **Multifamily** buildings only
- **8.2 Resident Manual**
 - **Mandatory**
- **8.3 Resident and Property Manager Orientation**
 - **Mandatory**
- **8.4 Project Data Collection and Monitoring System**
 - **Optional / 12 points**



Appendices & Glossary

- **2011 Enterprise Green Communities Criteria**



- » **Appendix A:**

- **The Enterprise Green Communities Certification and Verification Process**

- ▶ **Not required for Minnesota Housing funded projects, but strongly encouraged.**



- » **Appendix B:**

- **Air Sealing Key Points**

- » **Glossary**

Instructions for Submittals

- **Go Live to Enterprise Green Communities “Certification Workbook”**
- www.EnterpriseCommunity.org/green

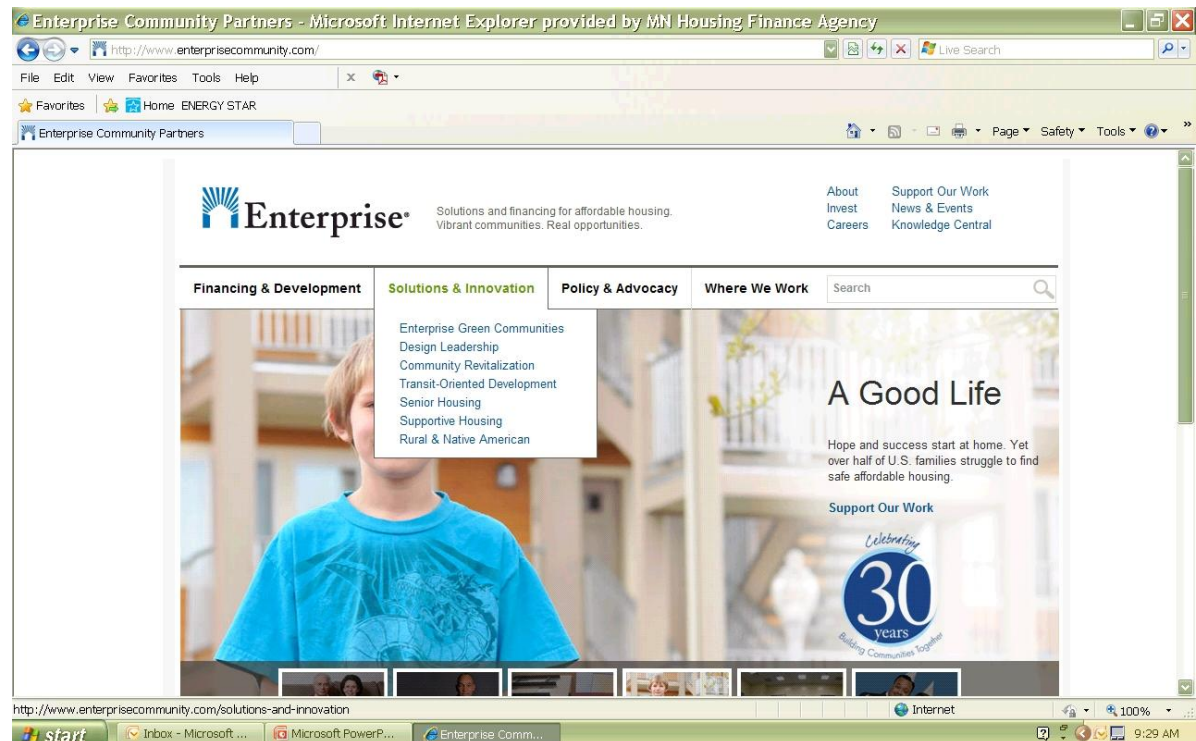
Instructions for Submittals

- Go to Enterprise's Home Page
- www.EnterpriseCommunity.org/green

**Go to Enterprise's
Home Page**

**Pull-down
“Solutions &
Innovations**

**Click on “Enterprise
Green
Communities”**



Instructions for Submittals

- When Certification Workbook is open...

Minnesota Housing requires

Pull-down choices

a Narrative here!



1: INTEGRATIVE DESIGN

Criteria Item	How Criterion will be implemented	If necessary, provide additional information or explanation of alternative approach to meeting this measure	Criteria Documentation		Champion
			Location of Measure in Project	Spec page number / plan type for locating measure	
1.1a Green Development Plan: Integrative Design Meeting(s)	The project team has conducted one or more integrative design meeting(s) and submitted a Green Development Plan or equivalent documentation	MN Housing requires additional information here to explain how criteria will be met!!!!!!!!!!!!!!	Scope of Work		Architect
1.1b Green Development Plan: Criteria Documentation	The project team will create design and construction documentation (i.e. plans, details, and specifications) to include information on implementation of appropriate Enterprise Green Communities Criteria	This may be submitted at the "Loan Commitment/ Closing" phase. Not needed for Initial Application.	Project Plans and Specifications	index	Architect
1.2a Universal Design (New Construction only)	The project team designed a minimum of 15% of the dwelling units in accordance with ICC/ANSI A117.1, Type A, Fully Accessible guidelines, and the remaining ground floor units and elevator-reachable units with ICC/ANSI A117.1, Type B	60 units x 15% = 9 units required to comply. 10 units provided.	Project Plans	Sheet A1.6	Architect
1.2b Universal Design (Substantial & Moderate Rehab only)					

Ready to Submit?

- **Follow Minnesota Housing's Consolidated RFP process for submittals.**
- **Include the Excel (.xls) "Certification Workbook" electronically and a PDF version of the "Intended Methods Worksheet" pages.**
- **Make sure any printed (or PDF) version of the "Certification Workbook" is printed in a horizontal 8 ½" x 11" (letter) format.**
- **Electronic Signatures**

Tools & References

- **MN Green Communities**
 - » www.mngreencommunities.org
- **Center for Sustainable Building Research**
 - » www.csbr.umn.edu
- **Green specs (specific to MN Green Communities)**
 - » www.mngreencommunities.org/publications/download/Specifications-for-Housing-Rehabilitation.doc
- **Enterprise Green Communities**
 - » www.greencommunitiesonline.org

For More **Single Family** Information Contact

- **Rehab Loan Program (RLP)**
 - » Laurie.Kramka@state.mn or 651-296-3495
- **Community Revitalization Program (CRV)**
 - » Eric.Thiewes@state.mn.us or 651-296-6527
- **Neighborhood Stabilization Program (NSP)**
 - » Summer.Watson@state.mn.us or 651-296-9790

651-296-7608 * 800-657-3769 * TTY 651-297-2361 * www.mnhousing.gov



Online to Review Later

www.mnhousing.gov

The screenshot shows the Minnesota Housing Finance Agency website. At the top, there is a navigation bar with links for Home, Login, Sitemap, and a Search box. Below this is a banner with the Minnesota Housing Finance Agency logo and the text "Celebrating 40 years of affordable housing." A red navigation bar contains several categories: Home Buyers, Lending & Funding Partners, Developers, Owners, Homelessness/Housing Assistance, Applications & Forms, and Investors. The "Homelessness/Housing Assistance" category is circled in green. Below the navigation bar, the breadcrumb trail reads "Home > Housing Resources > Training & Technical Assistance Services". The main content area is titled "Training and Technical Assistance" and features a link to "Single Family Technical Assistance". A sidebar on the left contains a "Housing Resources" section with links to Applications & Forms, Resources, Training & Technical Assistance Services, and Apply For Funding. Below this is a "Quick Links" section with links to Rent & Income Limits and Home Cost Limits. A "Printer Friendly Version" link is located in the top right corner of the main content area.

Home | Login | Sitemap

Minnesota Housing Finance Agency

Celebrating 40 years of affordable housing.

Home Buyers Home Owners Renters	Lending & Funding Partners Real Estate Professionals Home Buyer Educators	Developers, Owners Management Agents Architects & Builders	Homelessness/Housing Assistance Emerging Markets Local Governments	Applications & Forms Resources Training & Technical Services	Investors
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Home > Housing Resources > Training & Technical Assistance Services

Housing Resources

- Applications & Forms
- Resources
- Training & Technical Assistance Services**

Single Family Technical Assistance

Multifamily Technical Assistance

Apply For Funding

Quick Links

- Rent & Income Limits
- Home Cost Limits

Training and Technical Assistance

[Single Family Technical Assistance](#)

The Minnesota Housing Single Family Homes Division provides technical assistance and information sessions to a variety of housing industry partners and professionals regarding our first time homebuyer and home improvement programs.

[Multifamily Technical Assistance](#)

The Minnesota Housing Multifamily Division provides technical assistance and training sessions to a variety of housing industry partners and professionals. Sessions may cover features and benefits of using Minnesota Housing programs, including the basics of Applying for Funding, Compliance or maneuvering through databases.

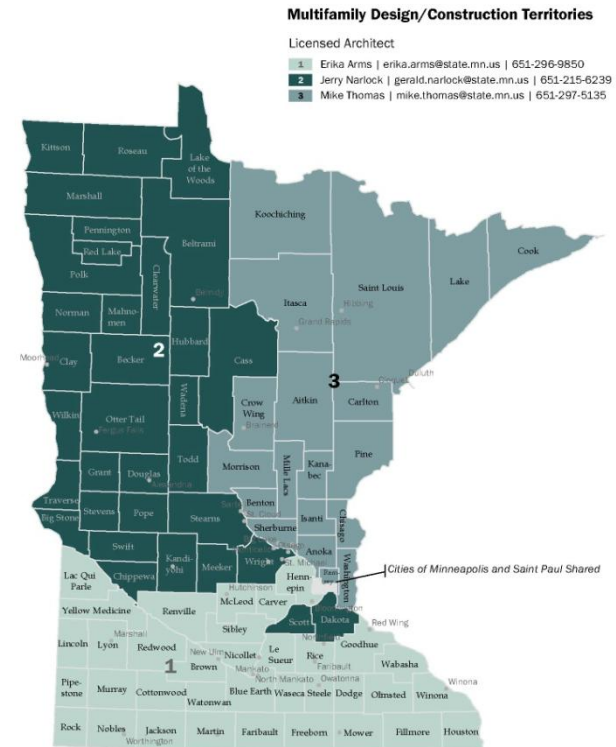
651-296-7608 * 800-657-3769 * TTY 651-297-2361 * www.mnhousing.gov



For More **Multifamily** Information Contact

Minnesota Housing **Multifamily** Technical Support Staff Architects

- **Jerry Narlock, Architect**
 - » 651-215-6239
 - » gerald.narlock@state.mn.us
- **Erika Arms, Architect**
 - » 651-296-9850
 - » erika.arms@state.mn.us
- **Mike Thomas, Architect**
 - » 651-297-5135
 - » mike.thomas@state.mn.us



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